



Dee Valley Water Upgrade

Radius data radios provide communication solution to water industry

Dee Valley Water supply water to North East Wales and the North West of England which covers some 831 square kilometres. It operates eight impounding reservoirs, two river abstractions and two ground water sources to supply approximately 62 million litres per day of water to 257,000 customers. For the last seven years they have been using Radius as their first choice for their data telemetry needs.

DEE VALLEY HISTORY

Recently Dee Valley Water was in the position to make some improvements to their communication systems, when they heard about Radius' new PDR 121 data radio. They were one of the first companies to order data radios as part of their data telemetry upgrade programme.

VERSATILITY OF DATA RADIOS

The different topographical locations which Dee Valley Water operates in provides a perfect example of the versatility of the data radio's. One such site is their main pumping and water reserve centre found near to the Chester City centre. This site is also used as Dee Valleys SCADA control centre, from which all substations and water treatment centres are monitored.

SOFTWARE INTERFACE

On installation at the site Tony Vitelli, one of Dee Valley Waters Communication Engineers, comments on the PDR 121; "the

set-up was simple, and configuring the radio has been made even easier through the enhanced software interface. These improvements have made the job that much simpler. Now the whole process takes less than ten minutes from the time you arrive to the system test and pack up".

MONITOR AND REPORTING

Another area where the PDR 121 data radio has been installed in the Dee Valley Water network, can be found in a sub-station in a remote rural location that serves as a water pumping station and a treatment centre for the local community. The data radios have to be able to monitor and report any malfunction from both the pumping station and water treatment section. Tony Vitelli says "one of the main reasons for using Radius and its data radios is that they provide a level of security for us. The radios are as reliable as they can be. In the many years we've been using them, we've never had one radio with a problem, which is imperative in locations like this".

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CHALLENGING TRANSMISSION

An ideal location for the PDR 121 can be found in one of Dee Valleys water towers found across the city from the main base station. This particular location provides a regular challenge for the PDR121 as the data signals have to travel across a busy city which is full of interference waves which could affect how much data is received at the base station for this site. However this environment proved to have no change to the data radios operational efficiency when communicating to the base station.



FORWARD ERROR CORRECTION

The possible interference levels of such an environment are significantly reduced due to the Forward Error Correction facility found in all new PDR 121 radios. The benefits of such functionality are in its utilisation of an interleaving function that enables the data radio to perform well in high interference environments.

PDR PERFORMANCE

Tony Vitelli commented on the PDR121 performance on the day "before the upgrade to the PDR network you could visually see the transfer of data taking place, on the new PDR data radio with its 9600bps rate if you blink you'd miss the operation, making the whole process much more seamless"

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BENEFITS OF THE PDR 121

- Wide Area Coverage
- Protocol Decoding
- 19.2 kbps
- Proven reliability
- Collision Avoidance Technology
- Built-in Network Management Tools

NEW FEATURES:

- More protocols
- User configured protocols
- East to install
- Encryption

PROTOCOLS:

DNP3, IEC870, RP570, COMLI, Modbus, Cooper/PG&E 2179, Telegry 8979, DCSI, Hunt, Exoline, Cactus, PEIP, Aquacom

In cooperation with:

Dee Vally Water
Pucksaddle
Wrexham Road
Rhostyllen
Wrexham, LL14 4EH
Tel 01978 846 946
Fax 01978 846 888

Do you want to know more about Radius?
Please contact us:

www.radius.net

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